The Hope-Simpson Hypothesis and Its Implications Regarding an Effect of Routine Varicella Vaccination on Herpes Zoster Incidence

Running title: Varicella Vaccine and Herpes Zoster

Letter to the Editors

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Harpaz [1] argues that what has, and has not, taken place in the US, even if it does not quite yet allow theoretical concerns about reduced exogenous boosting following universal varicella vaccine introduction to be completely ignored, ought at the very least to provoke some revision of the models being used to estimate the timing, size and duration of any such rise. After all, at some point real life must surely trump prophecy? Van Hoek chooses instead to continue to argue that exogenous boosting may actually matter and proposes that it may help explain rises in zoster occurring both in the absence of vaccination and following it – although he does not offer an explanation as to why, in that case, notional vaccine-induced effects replaced the effects occurring prior to vaccination but did not augment them, nor why more recent US data suggest that the rise, far from accelerating, appears to have stopped at the very time the models would have had them taking off.

But, perhaps because the scope of the paper does not extend beyond Hope-Simpson's exogenous hypothesis, neither author points out that it invokes a theoretical problem to which we already have a solution. Live attenuated zoster vaccine, while effective [2], may

provide only temporary and partial protection and cannot be used in some elderly people who are at the highest risk. But available evidence suggests strongly that the recently-licensed non-live adjuvanted vaccine overcomes these limitations [3]. Surely it is time for policy makers to stop imagining that they have to continue to permit much preventable morbidity to occur in children in order to protect adults from zoster, when they can use zoster vaccine to do the job instead?

1. Harpaz R, van Hoek AJ. Point-Counterpoint: The Hope-Simpson Hypothesis and Its Implications Regarding an Effect of Routine Varicella Vaccination on Herpes Zoster Incidence. J Infect Dis **2018**; 218:S57-S62.

2. Gabutti G, Valente N, Sulcaj N, Stefanati A. Evaluation of efficacy and effectiveness of live attenuated zoster vaccine. J Prev Med Hyg **2014**; 55:130-6.

3. Brosio F, Masetti G, Matteo G, Stefanati A, Gabutti G. A novel nonlive, adjuvanted herpes zoster subunit vaccine: a report on the emerging clinical data and safety profile. Infect Drug Resist **2018**; 11:1401-11.

Footnote page

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